

Application No. 10/658,874

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings of claims in the application:

1. **(Currently Amended)** Carrier comprised of a core, a polymer coating, and wherein said coating contains a conductive polypyrrole contained in a carbon black matrix, or a polyaniline contained in a carbon black matrix, and wherein said conductive polypyrrole is formed by the in situ polymerization of said pyrrole onto said carbon black surface, and wherein said polyaniline is formed by the in situ polymerization of said polyaniline onto said carbon black surface.
2. **(Original)** A carrier in accordance with **claim 1** wherein the polymer coating is comprised of a mixture of polymers.
3. **(Original)** A carrier in accordance with **claim 2** wherein the mixture is comprised of two polymers.
4. **(Original)** A carrier in accordance with **claim 2** wherein the mixture is comprised of two polymers not in close proximity in the triboelectric series.
5. **(Original)** A carrier in accordance with **claim 2** wherein the mixture is comprised of from about 2 polymers to about 7 polymers.
6. **(Original)** A carrier in accordance with **claim 1** wherein the conductive polymer is a polypyrrole coated on carbon black.

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7. **(Original)** A carrier in accordance with **claim 6** wherein the polymer possesses a weight average molecular weight  $M_w$  of from about 10,000 to about 400,000, or possesses a weight average molecular weight of from about 20,000 to about 100,000.

8. **(Original)** A carrier in accordance with **claim 6** wherein said polymer possesses an  $M_w$  of from about 22,000 to about 75,000, and an  $M_w/M_n$  ratio of from about 1.4 to about 2.

9. **(Currently Amended)** A carrier in accordance with **claim 1** wherein said matrix is present in an amount of from about 1 to about 10 weight percent, based on the weight of said matrix.

10. **(Original)** A carrier in accordance with **claim 1** wherein the ratio of said polypyrrole carbon black to said polymer coating is from about 1/99 to about 5/95.

11. **(Original)** A carrier in accordance with **claim 1** wherein the ratio of said polypyrrole carbon black to said polymer coating is from about 2/98 to about 10/90.

12. **(Original)** A carrier in accordance with **claim 1** wherein the ratio of said polypyrrole carbon black to said polymer coating is about 5/95.

13. **(Original)** A carrier in accordance with **claim 1** wherein said core diameter is from about 30 to about 100 microns.

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14. (Original) A carrier in accordance with **claim 1** wherein said core is iron, steel or a ferrite.

15. (Original) A carrier in accordance with **claim 1** wherein said coating polymer is a styrene polymer.

16. (Currently Amended) A carrier in accordance with **claim 1** wherein said polymer coating is polyvinylidenefluoride, polyethylene, polymethyl methacrylate, polytrifluoroethylmethacrylate, copolyethylene vinylacetate, copolyvinylidenefluoride, tetrafluoroethylene, polytetrafluoroethylene, polystyrene, polyvinyl chloride, polyvinyl acetate, or mixtures thereof.

17. (Original) A carrier in accordance with **claim 1** wherein said polymer coating is polymethylmethacrylate, polystyrene, polytrifluoroethyl methacrylate, or mixtures thereof.

18. (Original) A carrier in accordance with **claim 1** wherein said polymer coating is comprised of a mixture of polymethylmethacrylate and polytrifluoroethyl methacrylate.

19. (Original) A carrier in accordance with **claim 1** wherein said polymer coating is present in an amount of from about 0.5 to about 10 percent by weight of said carrier, or from about 1 to about 5 percent by weight of said carrier.

20. (Original) A carrier in accordance with **claim 2** with a conductivity of from about  $10^{-15}$  to about  $10^{-4}$  (ohm-cm) $^{-1}$ .

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21. **(Original)** A carrier in accordance with **claim 2** with a triboelectric charge value of from about -60 to about 60 microcoulombs/gram and a conductivity of from about  $10^{-12}$  to about  $10^{-6}$  (ohm-cm) $^{-1}$ .

22. **(Withdrawn)** A process for the preparation of carrier particles comprised of mixing carrier core, a coating polymer with polypyrrole doped carbon black particles thereby resulting in a polymer contained on the carrier core, and said polypyrrole doped carbon black particles present in the carrier polymer coating.

23. **(Original)** A developer comprised of the carrier of **claim 1** and toner.

24. **(Original)** A developer in accordance with **claim 23** wherein said toner is comprised of a thermoplastic resin, colorant, and optionally toner additives, and optionally wherein said additives are charge additives, wax, surface additives and mixtures thereof.

25. **(Original)** A carrier in accordance with **claim 1** wherein said coating contains therein or thereon a polymer of polyaniline segments attached to Lignin.

26. **(Original)** A carrier in accordance with **claim 1** wherein said coating contains therein or thereon a mixture of a conductive polypyrrole and carbon black; or a mixture of a polyaniline and carbon black matrix.

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27. **(Currently Amended)** Carrier comprised of a core, a polymer coating, and wherein said coating contains a mixture of a polypyrrole and carbon black particles, and wherein said polypyrrole mixture is formed by the in situ polymerization of said pyrrole on the surface of said carbon black particles.

28. **(Currently Amended)** Carrier comprised of a core, a polymer coating, and wherein said coating contains a mixture of a polyaniline and carbon black particles, and wherein said mixture is formed by the in situ polymerization of said polyaniline on the surface of said carbon black particles.

29. **(Original)** A carrier in accordance with **claim 1** wherein said coating contains a mixture of said polypyrrole and said polyaniline.

30. **(New)** Carrier consisting essentially of a core, a polymer coating, and wherein said coating contains a conductive polypyrrole contained in a carbon black matrix, or a polyaniline contained in a carbon black matrix, and wherein said conductive polypyrrole is formed by the in situ polymerization of said pyrrole onto said carbon black surface, and wherein said polyaniline is formed by the in situ polymerization of said polyaniline onto said carbon black surface.

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31. (New) Carrier comprised of a core, a polymer coating, and wherein said coating contains a conductive polypyrrole contained in a carbon black matrix, or a polyaniline contained in a carbon black matrix, and wherein said conductive polypyrrole is formed by the in situ polymerization of said pyrrole onto said carbon black surface, and wherein said polyaniline is formed by the in situ polymerization of said polyaniline onto said carbon black surface, and wherein said coating contains a conductive polypyrrole or conductive polyaniline with a weight average molecular weight  $M_w$  of from about 10,000 to about 400,000, or possesses a weight average molecular weight of from about 20,000 to about 100,000, and wherein the ratio of said polypyrrole said polyaniline carbon black to said polymer coating is from about 1/99 to about 5/95.